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ABSTRACT

Increasingly, young American women are engaged in multiple roles, combining job and family responsibilities. To investigate the links between role groups (employment, marriage, parenthood), and pressures, satisfactions, and physical health among young women, a subsample of 162 white women, aged 18 to 34, drawn from the 1978 Health in Detroit Study, completed interviews about health and stresses; 144 women subsequently kept health diaries for 1 week or longer. An analysis of the results showed that, although motherhood and employment increased certain pressures, marriage tended to diminish them. Both marriage and employment were linked to well being, self-esteem, and personal control. Lowest competence was found among never married women, who had least resistance to stress and lowest self-esteem, and among previously married women. Women with the fewest roles were least content, while those with the most roles were very content despite the pressures they experienced. Employment and motherhood were linked to good health, while previously married women had distinctly worse health. Overall, women with multiple roles learned how to buffer the increased pressures they often confronted, and women without multiple roles exploited their satisfactions when they were fortunate enough to feel them. (BL)

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Pressures, Satisfactions, and Their Link to Physical Health of Young Women

by
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Abstract

Young women (ages 18-34) often have the multiple roles or job, marriage, and parenthood. It is popularly believed that women with multiple roles are greatly stressed and that such stress has detrimental consequences for their health, both now and in the future. This paper uses a survey of Detroit women to ask how role groups differ in their feelings of pressure, satisfaction, and competence, and if those feelings affect physical health. The physical health profiles of role groups are discussed, with special attention to homemakers, career women, previously married women with a job and children, and employed married mothers. We find that marriage offers a very supportive milieu in which young women can add other roles and enjoy high rewards of happiness and good health. By contrast, previously married and never married women are more pressured and dissatisfied, and they do not always benefit by having a job or children. Yet many of them manage by learning to buffer stress so that their physical health does not suffer too much. Thus, the Detroit data show that multiple roles are in fact healthful in the context of marriage. The only bleak note is for previously married women, whose health tends to suffer greatly from having both job and parent responsibilities.

Pressures, Satisfactions, and Their Link to Physical Health of Young Women

Increasingly, young American women are engaged in "multiple roles," a combination of job and family responsibilities. It is often speculated that women with multiple roles experience high stress and dissatisfaction, and that this may lead to poor physical and mental health outcomes for them. Yet current scientific research shows more optimistic results: Women with multiple roles are happier and healthier than those who are less actively engaged. This paper extends the scientific side of the debate, concentrating on young women ages 18-34. This age cohort is trying out many different combinations of job, marriage, and motherhood, and it is finding out what rewards and troubles are attached to those combinations.

We use data from the 1978 Health In Detroit Study, a survey of white adults in the Detroit metropolitan area. We begin by asking which young women are most pressured, most dissatisfied, and least confident about their coping skills. Is it those with triple roles (married employed mothers) or those with few roles (such as nonemployed nonmarried women)? We then study which role groups have the best physical health, and whether stresses and unhappiness are risk factors for poor health. Finally, we ask if social involvements (job, marriage, parenthood) help buffer the negative impacts of stress on health, and also if they enhance the positive impacts of satisfaction and competence on health.

The results show that marriage offers a very supportive milieu in which women can add other roles and enjoy high rewards of happiness and good health. By contrast, previously married and never married women are more pressured and dissatisfied, and they do not always benefit by having a job or children. Yet they manage, learning to buffer stress so that their physical health does not suffer too much. Thus, marriage is a powerful support for young women. Those who are not married do however find resources within themselves to cope with the greater stresses and unhappiness they encounter.

Data Source and Variables

The 1978 Health In Detroit Study is a survey of white adults residing in the Detroit metropolitan area. It is a probability sample of households with one adult respondent for each selected household. The survey included an initial interview with numerous questions about physical health, health attitudes, and life stresses. After the interview, respondents kept Daily Health Records for six weeks. Each day they answered questions about their general health status, symptoms, and curative and preventive health actions. The diaries offer a good picture of short-term health, while the interviews have a longer, retrospective time frame. A total of 714 people (302 men, 412 women) completed the initial interview, and 589 (243 men, 346 women) kept the Daily Health Records for at least one week. This paper uses a subsample; 162 women ages 18-34 completed the initial interview and 144 kept health diaries for a week or longer.

The dependent Health variables chosen for this analysis cover a broad spectrum, including indicators of health status, health behavior, and health attitudes. We want to see how role and psychological predictors influence feelings about health and propensities to take health actions, as well as more objective measures of health problems and curative behaviors. The initial interview provides reports of chronic conditions and limitations from them, subjective evaluations of health status, attitudes about pain and about cutting down activities for symptoms, and reports of recent illness and injury. The Daily Health Records provide tallies of symptoms, restricted activities, medical care, and medical drug use over a six-week period. Table 1 shows the health variables and their average values for the young women.

(Insert Table 1 About Here)

Three key Roles are considered: employment, marriage, and parenthood. Women who have a paid job are employed. Those with a spouse or opposite-sex partner are married. Separated, divorced, and widowed women are previously married. Women with an own-child present at home are parents (also called mothers). There are 12 possible combinations of these statuses; the sample sizes for them are shown in Table 1.

Pressures are measured by four items: an index of chronic stress, an index of acute stress, experience of stressful life events in the past year, and feelings of being rushed. Satisfactions are measured by three items: liking for job (for employed women), liking for housework (all women), and how good life has been in the past year (also called general wellbeing). Three indexes about psychological Competence are also included: resistance to stress, internal locus of control, and self esteem. Together, these ten items are called Psyche variables. Table 1 has descriptive information about them.

Methods

We begin with the question "Who is most pressured, most dissatisfied, and feels least competent?". To answer it, we examine correlations and cross-tabulations between the Role and Psyche variables.

We then move to multiple regression to answer "Which role groups are healthiest, and which are least healthy?", "Are pressures, dissatisfactions, and low competence risk factors for poor health?", and "Do some women buffer stress or exploit satisfactions, and thereby enjoy better physical health?".

The first question is studied in three regression equations:

Model 1 $\hat{Y} = f[E,M,P]$

Model 2 $\hat{Y} = f[E,M,P,ExM,ExP,MxP]$

Model 3 $\hat{Y} = f[E,M,P,ExM,ExP,MxP,ExMxP]$

Model 1 shows the main (additive) effects of employment, marriage, and parenthood on health. Model 2 shows if combining two roles has any special effect (2-way interactions), and Model 3 shows if combining three roles has any effect (3-way interactions). Models 2 and 3 are the real test of hypotheses

about multiple roles since they show if putting two or three roles together is especially beneficial or troublesome--effects beyond the main ones of being in each role.

All of the predictors are dummy variables: For E, 1=employed and 0=non-employed. There are two dummies for M, one for previously married women (M1) and one for currently married women (M2). Never married women score 0 on both of these. For P, 1=parent and 0=nonparent. The two-way interactions are ExM (two dummies, for employed previous married women and employed married women), ExP (one dummy for employed parents), and MxP (two dummies, for previously married mothers and married mothers). Three-way interactions are ExMxP (two dummies, for employed previously married mothers and employed married mothers). Model 3 is a "full" model with the maximal effects the three roles can produce (the 12 role groups can be represented by 11 degrees of freedom, but not more).

For Models 1-3, we examine regression coefficients (size, sign, significance) to see how each role affects health and also how role combinations affect health. Increments in R^2 from Model 1 to 2 and from Model 2 to 3 are tested for significance ($p < .05$); the increments show if "combining two roles" in general or "combining three roles" in general has a special effect on health. The increments do not pinpoint which specific combinations are important; we must look at coefficients to determine that.

The second question is studied by this equation:

$$\text{Model 4} \quad \hat{Y} = f[E,M,P;\ \text{Psyche Variables}]$$

Model 4 shows how psychological factors (pressures, satisfactions, competence) influence health apart from any role effects. We include the main effects of Roles and the entire set of ten Psyche variables (all interval-scaled). The Role variables are included in every equation, now being viewed as controls. The Psyche variables enter by a stepwise procedure, so that most important (strongest) ones enter first. We set a basic entry criterion (F-level increment must be .05 or larger); Psyche variables failing to meet it do not enter the equation for a particular health variable.

With Model 4, we examine regression coefficients to see how Psyche variables affect health. Their importance is also revealed by how early and how often they enter the equations. In addition, the R^2 increment from Model 1 to 4 is tested for significance, to see if psychological factors in general have an effect on health. The increment does not identify just which Psyche variables matter; only the coefficients do that.

The third question is studied by this equation:

$$\text{Model 5} \quad \hat{Y} = f[E,M,P,\text{2-way Role, Top Three Psyche};\ ExX_i,\ MxX_i,\ PxX_i]$$

The critical variables here are ExX_i, MxX_i, and PxX_i. They are interactions of Role with Psyche variables, and they tell us if women who are employed, previously married, married, or parents react to stress or happiness differently than women without those roles. The Role x Psyche interactions are created by multiplying each Role dummy (E,M1,M2,P) with each

Psyche variable. The resulting variable is interval-scaled; women with the designated role have their Psyche variable score, and women without that role score 0. Every equation has 12 of these terms (4 Role dummies x 3 Psyche variables).

The other variables in Model 6 serve as controls: Role main effects, any significant 2-way interactions (Model 2, $p < .05$) for this health variable, and the three Psyche variables that entered Model 4 earliest for this health variable. Three Psyche items proves to be a convenient and adequate number; Model 4 typically has only two or three significant coefficients for the whole set of Psyche variables, and they are the ones that enter earliest.

The set of control variables differs from any prior model, so we estimate a baseline Model 5' before Model 5, as follows:

Model 5' $\hat{Y}$ = f[E,M,P,2-way Role, Top Three Psyche]

When Model 5 is estimated, the controls are routinely included for every dependent variable, and the Role x Psyche terms enter by the stepwise procedure. A specific example of Model 5 is:

No. chronic conditions = f[E, M1, M2, P, Self Esteem, Liking for Job, Life in Past Year; E x Self Esteem, E x Liking for Job, E x Life in Past Year, M1 x Self Esteem, M1 x Liking for Job, M1 x Life in Past Year, M2 x Self Esteem, M2 x Liking for Job, M2 x Life in Past Year, P x Self Esteem P x Liking for Job, P x Life in Past Year].

For this particular health item, no 2-way Role terms appear since none are significant in Model 2.

Two further notes: (1) Some of the diary variables are health actions queried only on symptomatic days (see Table 1). Their levels are therefore strongly affected by how often women experienced symptoms. For these variables, the entire analysis was rerun with a morbidity control (No. of symptomatic days) included with the predictors. Remarkably, including a morbidity control scarcely alters the regression coefficients or R^2 increment tests. Its only effect is to boost the R^2 of each model a good deal. Thus, it makes no difference for our substantive results about Roles, Psyche, and Role x Psyche effects whether morbidity is controlled for these variables or not. (2) The Psyche variable "Liking for job" also poses a problem. Nonemployed women are not asked this question for obvious reasons. The entire analysis was run twice, with this variable included (nonemployed women being assigned the middle score 3) and without it. The substantive results (size, sign, and significance of coefficients, significance of R^2 increments, and entry sequence of Psyche variables) are virtually unchanged. Only the R^2 levels differ, being higher when the job satisfaction variable is included. Thus, whether Liking for Job is among Psyche variables or not makes no difference in our conclusions about all the other predictors. Both of these results were surprising, but welcome.

Results and Discussion

Who is Most Pressured, Most Dissatisfied, and Feels Least Competent?

Correlations between Role and Psyche variables are presented in Table 2. With few exceptions, we find that socially active women feel more pressured but also more satisfied and competent than less active women.

(Insert Table 2 About Here)

Employed women are much more rushed than nonemployed ones (r=.253,**), but they report only a little more stress. Stress is strongly tied to parenthood; mothers feel persistent stress (.172,*) and recall stressful life events (.186,*) much more than women without children (Mothers are also somewhat more rushed). By contrast, married women are notably less rushed (-.170,*) and stressed than their nonmarried peers. Thus, both employment and motherhood increase certain pressures, but marriage actually diminishes them.

Married women are very pleased with life (.328,**) and they like housework more than nonmarried women. Employment is also linked to wellbeing and even to liking for housework, but less strongly. Parenthood causes some grumbling; mothers are less happy about life and housework than women without children. Previously married women are much less satisfied with life (-.415,**) than married or never married women. In sum, marriage and employment bode well for satisfaction with life and roles, but parenthood and divorce/separation do not.

Employed women have higher self esteem and personal control than nonemployed ones. Married women have more self esteem than their nonmarried peers, and parents have more resistance. Lowest competence is found among never married women, who have least resistance to stress and lowest self esteem, and among previous married women, who feel less control over their lives than other women.

Overall, employment increases time pressures and (to a lesser extent) stress, but it also brings satisfaction and feelings of competence. Marriage is a very propitious status since it reduces pressures but increases satisfaction greatly and also self esteem. The situation is very different for previous married women; they are very dissatisfied with life, feel more out of control about it than other women, and feel more stress than other marital groups. The profile for never married women is less clear but tends "negative"; they are somewhat rushed, a little displeased with life, and have low self esteem. Parenthood brings the greatest stress, and it is not offset by satisfactions or competence. In brief: Of the three roles (job, marriage, parenthood), marriage offers the strongest unqualified rewards. Women who lose that role suffer in all respects; for them, pressures increase, satisfaction decreases, and feelings of competence decrease.

What happens when women combine these roles? We examined correlations and crosstabulations for five types of women: Women At Home (nonmarried women without a job), Homemakers (nonemployed married women), Career Women (employed childless women), Two Roles Plus (employed previously married mothers), and Triple Roles (employed married mothers).

Distinct psychological profiles emerged for the groups: (1) At Home women have no job or spouse, and most do not have children (some live with their parents, some live alone). They are decidely upset about life, reporting low general wellbeing, great dislike for housework, and low self esteem and personal control. With few role commitments, they feel no special stress or time pressures. (2) Life is much better for Homemakers, who are married but not employed. They feel much less stressed and rushed than other women, especially they they have no children to care for; they are moderately pleased with life; and they have average competence. Thus, life is quite placid for Homemakers compared to other women. (3) Career Women are married or never married women with a job but no children. Life is quite nice for them; they are not very stressed or rushed (though more so than Homemakers); they are pleased about life overall, and the married women among them are actually fond of housework. They are, however, less satisfied with their jobs than other employed women. Possibly their expectations are higher because the job is such a key role for them. Career Women have average or better personal control and self esteem. (4) Two Roles Plus refers to previously married women with both job and children. Although not numerous in the Detroit Study, they have a distinctive profile of high stress, time pressures, and unhappy lives in the past year. With heavy responsibilities, they shore up psychological resources and have greater resistance and self esteem than most other groups. (5) Women with Triple Roles feel chronic pressures, but this is offset by satisfaction with life and job and by strong resistance resources.

Recalling the solo effects of employment, marriage, and parenthood, we are not surprised by the last two profiles. Two Roles Plus women experience the time pressures of employment, stress of motherhood, and unhappiness of divorce/separation. The Triple Roles women encounter similar time pressures and stress, but marriage offers a much happier setting for the mix of job and motherhood.

In sum, the women with fewest roles are least content, while those with the most roles are very content despite pressures they experience. Life is simplest for the women with modest responsibilities; homemakers are pacific compared to other women, and career women often become busier but remain unstressed and satisfied with life overall.

Which Role Groups are Healthiest, and Which are Least Healthy?

In this section, we present results for Models 1-3, which ask how roles and role combinations are related to health. Table 3 shows detailed results for selected variables (10 of the 31 analyzed). Our discussion encompasses all 31.

(Insert Table 3 About Here)

Main Effects of Roles on Health. We hypothesize that women with active roles (employment, marriage, parenthood) are healthier than women without them. Three reasons would account for this: health-enhancing effects of social ties, use of personal skills, and access to resources; selection of healthy women into roles; and tendencies to ignore symptoms and eschew curative actions because of role responsibilities.

The data show that employment and motherhood are clearly linked to good health. Virtually all regression coefficients (87% for E, 87% for P) are in the hypothesized direction. Marriage, however, is only weakly related to health; only about half of the M2 coefficients have the hypothesized sign and none are statistically significant. Never married women generally have the best health among marital groups (68% of the signs are negative).[2] Previously married women have distinctly worst health (68% of the signs are positive and coefficients are large).

Significant regression coefficients point to these specific effects: Employed women have especially good self-rated health, few work or nonwork limitations, little restricted activity and little drug use (even after controlling for morbidity). Mothers have few limitations, feel less vulnerable to illness than their peers, avoid restricting activity for their symptoms, feel they can ignore pain without medicine, and actually use fewer drugs during the diary period. Previously married women cut down activities readily for symptoms, cannot ignore pain easily, and take more drugs especially prescription drugs. Never married women feel good physically (both on a daily basis and over the past year), have fewer chronic conditions, and do have more symptoms during the diary period but are loathe to restrict activities or take drugs for them.

Interaction Effects of Roles on Health. We hypothesize that women who combine roles are healthier than women with one or "none". Again, this can be due to three reasons: social causation (direct health benefits from high social involvement), social selection (healthy women are able to take on multiple roles), and health attitudes (involved women pay little attention to symptoms and shun curative actions). Operationally, we construct interaction terms (EM1, EM2, EP, M1P, M2P, EM1P, EM2P) and ask if the regression coefficients for them are negative, indicating better health.[3] Readers are reminded that these measure the special or extra effects of role combinations, after controlling for the main effects of each role taken one by one. This is a suitable test for hypotheses about multiple roles--is there anything special that ensues from combining them?

We begin with the 2-way interactions: (1) Married women who also have a job (EM2) or children (M2P) get no special health benefit for having two roles. (In other words, they receive the main effect of each role but nothing special for the combination of two.) (2) But previously married women who are also employed or parents are notably healthier (87% of the EM1 signs are negative, 77% of the M1P signs). If these effects were limited to health behavior variables, we might argue that these women are burdened and cannot take time for curative care; but the "credits" appear for all kinds of health variables, suggesting that some real health benefits come from job or parent activities. (3) The burden of multiple roles surfaces among women who combine a job and motherhood (84% of the EP signs are positive). They tend to be fatigued, feel bad physically (daily and past year), cut down activities for symptoms, talk with people about their symptoms, and take substantially more prescription and OTC drugs. And, never married women with a job or children show small consistent decrements in health (77% of the EM3 signs are positive, and 71% of the M3P signs).[4]

The story is extended by looking at 3-way interactions: (1) Employed married mothers enjoy a clear health "credit" for being so engaged (71% of EM2P signs are negative). They have fewer chronic conditions and short-term symptoms than less busy women, are less fatigued, and take notable fewer prescription drugs. (2) The situation is opposite for employed previously married mothers, who incur a sharp health "debit" (71% of EM1P signs are positive, and they are large). The sample size for such women is small in Detroit, but the effects are consistent and striking: These women feel much worse physically, report more chronic conditions and limitations, and have very high drug use and restricted activity despite fewer diary symptoms.[5]

In sum, when previously married women add one other role (job or motherhood), they show health improvement. But both roles is too much. Women pressed into this situation suffer poorer health. Are the links causal--does some involvement truly enhance physical health for divorced/separated women, while high involvement jeopardizes it? Married women flourish with two added roles (job plus children). Marriage alone has no particular effect on health, and adding one role has no special impact either (beyond the main effects of job and parenthood). It is the Triple Role women who experience very good health--and very high life satisfaction as well. Recalling the strong negative impact of "job plus motherhood" (EP), we see now that marriage counteracts it, apparently providing a supportive milieu for multiple roles. But the negative effect is intensified for previously married women, who have heavy responsibilities but lack the companionship and support of a spouse.

R^2 Levels and Increments. Roles account for a modest, but certainly not large, degree of variation in physical health. The R^2 for Model 1 (main effects) ranges from .010 - .127 for interview items and from .014 - .107 for diary items. Including 2-way and 3-way effects boosts the R^2 a little: Model 2 has R^2 of .038 -.213 and .040 - .284, Model 3 has R^2 of .047 - .251 and .069 - .373, for the interview and diary items respectively. (The high values of .213, .284, etc. are outliers; typical values are about .050 - .010 for Model 1, .010 - .015 for Model 2, and .015 - .020 for Model 3.) Only about half of the R^2 are significant ($p < .05$).

Although the 2-way and 3-way effects are well-patterned, they are small in strength. R^2 increments from Model 1 to 2 are seldom significant (10 of 31); the same is true from Model 2 to 3 (9 of 31).

The R^2 in Models 1-3 are highest for these items: work limitations, non-work limitations, illness/injury in the past two weeks, restricted activity, lay consultation, prescription drugs, and can ignore pain. The distinctiveness of previously married women (M1, EM1, M1P) and employed mothers (EP) underlie these high R^2.

Thus, Roles--singly and in combinations--do have consistent effects on health, but those effects are modest in strength. Roles are indicators of social involvement, social ties and support, responsibilities, use of skills, and access to resources. These social factors can enrich or tax women's lives, and we do find that the effects on health vary across role groups of women. But we shall soon see that psychological factors tend to be stronger.

Are Pressures, Dissatisfactions, and Low Competence Risk Factors for Poor Health?

We now present results for Model 4, which shows how Psyche variables are related to health. Table 3 includes detailed results for 10 of the 31 health

variables. Our discussion encompasses all 31.

(Insert Table 3 About Here)

Main Effects of Psyche on Health. We hypothesize that pressures are related to poor health, and that they are especially likely to trigger short-term symptoms and health actions. On the other hand, satisfactions and competence may enhance health. Again, several reasons could account for the results: direct health-promoting effects from satisfaction ahd health-harming ones from stress; reverse effects, so good health increases satisfaction and feelings of competence, while poor health increases stress; and attitudinal effects, so pressured women focus on symptoms and seek relief in curative actions, while happy and competent women ignore symptoms and have little desire for restricted activity, medical care, or drug use.

The data show that chronic stress and satisfactions are consistently related to health: Women who feel persistent stress are less healthy (83% of regression coefficients are positive), especially during the diary period. Thus, chronic stress is a strong trigger of day-to-day symptoms, restricted activity, and especially drug use. By contrast, women who like their job or like housework are healthier than women who are dissatisfied with their roles (84% and 83% of the signs are negative, respectively). Role-satisfied women have fewer chronic problems and short-term symptoms, and they feel better. The health benefits appear for both long-term (interview) and short-term (diary) health. Job satisfaction has especially strong effects; the housework satisfaction effects are equally consistent but much weaker. General wellbeing is also important; women who report a good life in the past year are healthier than others (69% of the signs are negative, and they are often significant). General wellbeing is linked mostly to good general health (interview); it does not protect women from short-term health problems (diary)--its effect there is nil.

The other Psyche variables are not very important for health: Recent stress (reported in the interview) is linked to more symptoms and curative actions in the ensuing diary period, but the effects there are much smaller than for chronic stress. Experience of stressful life events in the prior year boosts drug use in the diary period but otherwise has no effect (e.g., it does not increase symptoms in the diary period). Feeling rushed increases fatigue and discourages women from cutting down activities or taking drugs for symptoms, but otherwise it has no effect on health, especially on long-term health. Women who feel in control of life have slightly better health for it. (They do, however, take more drugs; this could actually reflect their confidence in self-care!) Resistance and self esteem have negligible effects.

In sum, women who are chronically stressed or who are dissatisfied with roles and life are "at risk" of poor health. They experience more health problems, feel worse, and take more curative actions for their symptoms. The effects on health behavior persist when morbidity is controlled; thus, these women opt for more-than-usual care when symptomatic. Several of the non-findings are notable: We find that major stressful events and recent stress have much less impact on health than persistent, unrelieved stress. And we find that being rushed in life does not jeopardize health; feeling stressed about it does.

R^2 Levels and Increments. Psyche variables are clearly important for self-reported health and health behavior. In Model 4, they are allowed to contribute to R^2 only after Role variables, yet they tend to add 10-15% explained variation above Model 1. The R^2s for Model 4 range from .063 - .295 for interview variables and from .082 - .272 for diary variables. A sizable number of the R^2 for Model 4 are significant (20 of 31). The R^2 increments are largest for subjectively-toned items such as How feel physically each day, Job taking care of health, Average physical feeling, Health in past year, Can ignore pain. Thus, the more an indicator reflects "subjective health status", the more the Psyche variables count relative to the Role variables. (The reverse statement is: The more an indicator reflects objective health status, the more Roles count.) This is especially clear for interview variables, which are more enduring and long-term measures of health than the diary variables.

Do Some Women Buffer Stress or Exploit Satisfactions, and Thereby Enjoy Better Physical Health?

In this section, we present results from Model 5, which shows if the health of some role groups is affected more strongly by stress and satisfaction, than other groups. This is revealed by the Role x Psyche interactions in Model Table 4 presents a summary of the key finding.

(Insert Table 4 About Here)

We hypothesize that women with active roles (job, marriage, parenthood) buffer the negative effects that pressures have on health, and that they benefit more from the positive effects of satisfaction. Operationally, we construct interaction terms (EX_1,EX_2,EX_3,$M2X_1$,$M2X_2$,$M2X_3$,PX_1,PX_2,PX_3) and look at regression coefficients. To support the hypotheses, coefficients should be negative--better health for pressured women with a role, and better health for satisfied (and maybe competent) women with a role. Interactions are also constructed for previously married women ($M1X_1$,$M1X_2$,$M1X_3$). We hypothesize that they will be unusually vulnerable to stress and will not enjoy benefits from satisfaction and competence; this will be reflected by positive coefficients.

The Psyche variables that usually entered Model 4 earliest are chronic stress, job satisfaction, and life in past year. These are therefore used most often in the Model 5 interactions. (Although housework satisfaction had patterned effects, they were weak and the variable tended to enter Model 4 late. The other Psyche variables had poorly patterned or weak effects.)

Four results stand out: (1) Employed women and mothers who experience chronic stress are able to buffer it better than nonemployed women or nonparents.[6] (This is indicated by negative coefficients--better health for employed stressed women than nonemployed stressed women; similarly, better health for stressed mothers vs. stressed nonmothers.) But marriage does not protect women from stress effects--it has no influence in either direction. Instead, never married women seem to suffer less from stress than other marital groups; but the effects are quite small. (2) Satisfactions are not readily translated into good health by active women. Instead, it is women without roles (nonemployed, nonmarried, nonmothers) who benefit from satisfactions most. (For the non-role groups, coefficients are more often positive than negative.)

Although they tend to be dissatisfied more often than active women, the ones who are satisfied get a health benefit. But previously married women follow our pessimistic hypothesis; they do not benefit from satisfaction (coefficients for M1 x Life in past year are mostly positive). (3) Although competence variables seldom appear in Model 5, the results are intriguing. Coefficients are often negative; this means that women with a role who feel competent derive a small health benefit, compared to competent women without the role. Social ties and involvements give women a good opportunity to use their self esteem, resistance, and personal control, and to reap the small health benefits from that. (4) Interaction terms with employment (EX_i) fit the hypotheses better than those with parenthood (PX_i) or marriage ($M2X_i$). This means that employed women use their coping skills more than women with other roles do. They are more likely to buffer stresses, to enhance satisfactions, and to exploit competence than mothers or married women with similar psychological strengths.

In sum, young women who are employed or parents have found ways to buffer stress, so the negative impact of stress on health is reduced for them. Employed women do this best of all. But active women are less likely to benefit from positive feelings about life, roles, and self. Instead, "nonactive" women tend to benefit. In a nutshell: Women with roles learn how to buffer the increased pressures they often confront, and women without roles exploit their satisfactions when they are fortunate enough to feel them.

These effects are statistically modest: Adding Role x Psyche interactions typically increases R^2 by about 5-12% from Model 5' to 5, and only one third of the increments (10/31) are statistically significant.

Conclusions

A remarkable story emerges from the detailed results. It is best told by focusing on three kinds of Psyche variables (chronic stress, satisfactions, competence) and on marital groups.

Some pressures do not jeopardize young women's health; for example, feeling rushed in daily life, recent nervousness or anxiety, even major upsetting events in the past year. But a distinct health risk comes from persistent stress about work pace (at home or job), future worries, and little chance to do things one likes to do. Women feeling such stresses have poorer physical health; they tend to have more symptoms, more restricted activity and medical drug use, and poor self-evalued health. Role groups that typically feel little chronic stress do not buffer its effect on health--they seldom need to. But groups that often feel stress (mothers and employed women) do buffer it. Thus, women in roles that usually entail stress often learn to cope with it and thereby blunt--partly but not completely--its negative effects of health.

A similar picture exists for satisfactions. Unhappiness with job, life in general, or housework is a risk factor for poor health. Role groups that typically have high satisfaction do not capitalize on it, and they reap no special health benefit. But a group that often feels upset about roles or life (mothers) and one that feel only a little more satisfied than average (employed women) do capitalize on it. In other words, if they are fortunate enough to feel very pleased with life and roles, their health is especially enhanced.

Thus, coping develops among role groups who feel frequent stress or infrequent happiness. This is where the needs are greatest to buffer health risks and exploit health promoters.

So far, nothing has been said about previously married women, who have above average stress and great dissatisfaction. Their lives are a cascade downwards in many respects. If they are socially involved by having a job or children, their health profile improves. But two roles is too much, and the health of these burdened women suffers. They fail to develop buffers to stress, and they do not exploit satisfactions when they exist. For them, role responsibilities and psyche conspire to produce symptoms, drug use, poor physical feelings, and pessimism about health.

Life and health are best for women with all three roles. Employed married mothers do feel more stressed than average, but they are also much more satisfied. This seems to cancel the risks from elevated stress. The mix of employment and parenthood actually enhances their health profile--a sharp contrast to the negative impact of this mix for previously married women. Triple Role women benefit from the buffers developed in their work and parenting roles, and they enjoy direct health benefits from being satisfied. Thus, these women enjoy many rewards from busy lives and blunt the troubles. Their physical health is the best of all role groups.

The profile for never married women is less clear. When employed or mothers, they add on stresses and health risks but also the buffers to those stresses. They end up with a good health profile, but not the best one.

Finally, feelings of competence are not directly related to good health. This means that psychological strengths (resistance to stress, internal locus of control, high self esteem) do not promote health for young-women-in-general. But socially involved women--who tend to feel more competent that noninvolved women--do capitalize on their strengths, and they end up with fewer symptoms, less curative behavior, less malaise, and more contentment with health. In other words, involved women who feel competent get a health boost, whereas less active women who feel competent do not.[7]

In the briefest possible words, here is the story: Good physical health is closely hinged to marital status for young women. Married women are able to add a job and motherhood without health penalties. In fact, multiple roles for them offer an upward spiral to health. Previously married women suffer the health consequences of unhappy lives, and their health is jeopardized when they have both a job and children. For them, multiple roles offer a downward spiral to health. Never married women are not special; they gain pressures and satisfactions from additional roles and the straightforward consequences for health. For young women in general, when health risks are high, so are buffers. When satisfactions are low, so are capabilities to exploit happiness when it occurs and to feel better for it. (These coping skills help some previously married women, but not enough to give them good health.)

In response to popular fears about the health of young women with multiple roles, the Detroit study shows that multiple roles are in fact "healthful" in the context of marriage. The only bleak note is for previously married women, whose health tends to suffer from having both job and parent responsibilities.

Footnotes

[1] The Psyche variables which vary most across role groups are: life in past year, feeling rushed, chronic stress, and stressful life events in past year. Compared to these, role groups of young women are remarkably similar in their levels of acute stress, feelings about job and housework, and psychological competence.

[2] These signs are readily computed by adding the married + previously married coefficients and then reversing the sign of that sum.

[3] From this point on in the text and tables, we suppress the "x" that signals an interaction effect. Thus, EM1 is the same as ExM1, the interaction of employment and previously married statuses.

[4] The EM3 signs are computed by summing EM1 + EM2 coefficients, then reversing the sign of that sum. The M3P signs are the sum of M1P + M2P, then reverse the sign.

[5] It is not possible to compute coefficients for employed never married mothers because of their very small number in the Detroit data.

[6] Statements here are based on the percent of signs which fit the hypothesis and on how often the Role x Psyche term enters the stepwise procedure.

[7] These effects are not frequent or large in the data, but they are definitely consistent. Such effects (buffers and exploiters) are revealed only by interaction terms, and they can be easily overlooked in survey analysis. (In fact, ever our approach works against finding them, since the competence variables enter Model 5 only if they have significant direct effects in the first place.)

Table 1 - Health, Roles, and Psyche Variables
for Young Women (Ages 18-34) in Detroit

N=162 for Interview, 144 for Diary[a]

Health - Initial Interview[b]

No. of chronic conditions in past year	$\bar{x}$= 3.73
Health in past year (1=very best health possible, 10=very serious health problems)	2.76
Satisfaction with health (1=very satisfied, 4=very dissatisfied)	1.64
Vulnerability to illness (How often sick compared to age peers, 1=a lot less often, 5=a lot more often)	2.41
Work limitations due to health (0=no limitations, 1=limited in kind or amount of work, 2=unable to have a job)	0.14
Nonwork limitations due to health (index based on housework/chores, sports/ hobbies, other mobility and physical activity; range is 0-6)	0.45
How feel physically each day (1=wonderful all the time, 10=terrible all the time)	3.24
How much physical feelings vary from day to day (1=not at all, 4=a lot)	2.34
Self-rated health status (1=excellent, 4=poor)	1.75
Health status compared to age peers (1=better, 3=same, 5=worse)	2.59
Can ignore pain or discomfort without taking medicine (1=always, 5=never)	2.47
Propensity to reduce activities for illness (helps you get better if you cut down usual activities, 1=a lot, 4=not at all)	1.94
How often worn out when finished with daily work or household tasks (1=never, 5=every day)	2.93
How good a job in taking care of own health (1=excellent, 4=poor)	2.30
In past two weeks, no. days not felt well because of illness or injury	1.83
In past two weeks, any days not felt well for other reasons (0=no, 1=yes)	0.20

Table 1 (cont.)

Health - Daily Health Records	
(All items refer to six-week diary period)[c]	
Average physical feeling (1=wonderful, 10=terrible)[d]	$\bar{x}$= 7.57
No. of symptomatic days	16.21
Total no. of health problems[e]	23.56
No. of days cut down usual activities[f,g]	3.30
No. of days cut down chores or errands[f]	2.77
No. of days missed work[f]	0.48
No. of days with curative medical care[f,h]	0.68
No. of days talked with friends or family about symptoms[f]	8.26
No. of days with preventive medical care	1.90
No. of days took pills, medicines, or treatments ("drugs")[f]	21.40
Total no. of drugs taken[f,i]	40.06
No. of curative drugs[f]	12.80
No. of preventive drugs	16.78
No. of nonprescription drugs[f]	19.11
No. of prescription drugs[f]	14.33
Roles	
Employment status: Employed	59.3 %
Marital status: Previously married	13.6 %
Currently married	58.6 %
Parent status: Parent (own child at home)	50.0 %
Role groups: Non-employed, never-married, no children	N= 6 At Home
Nonemployed, never-married, children	2 At Home
Employed, never-married, no children	33 Career Women
Employed, never-married, children	4 --
Nonemployed, prev. married, no children	1 At Home
Nonemployed, prev. married, children	7 At Home
Employed, prev. married, no children	5 --
Employed, prev. married, children	9 Two Roles Plus
Nonemployed, married, no children	14 Homemakers
Nonemployed, married, children	36 Homemakers
Employed, married, no children	22 Career Women
Employed, married, children	23 Triple Roles
Psyche	
Pressures:	
Chronic stress index (Three items on work pace, worry about future, doing things you like to do; range is 3-15)	$\bar{x}$= 9.97
Acute stress index (Four items on nervousness, strain, relaxation, and anxiety in past month; range is 4-20)	12.36

Table 1 (cont.)

If any stressful life events in past year (0=no, 1=yes)	0.842
How often feel rushed (1=never, 5=always)	3.30
Satisfactions:	
Liking for job[j] (1=unqualified dislike, 5=unqualified like)	3.63
Liking for housework (1=unqualified dislike, 5=unqualified like)	3.66
Life in past year (general well-being) (1=worst life you could expect, 10=best life you could expect)	7.44
Competence:	
Resistance resources index (Two attitude items: weakness to admit problems, better off to look at positive side of life; range is 2-10)	7.73
Internal locus of control index (Three attitude items: feel helpless in dealing with problems of life, can do anything I set my mind to do, little I can do to change things; range is 3-15)	11.69
Self esteem index (Three attitude items: feel useless at times, have a number of good qualities, wish I could have more respect for myself; range is 3-15)	10.70

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[a] 144 of the interviewed women kept Daily Health Records for one week or longer.

[b] Most of the items are ordinal-scaled; the minimum and maximum categories are described here.

[c] There was little selectivity in dropout for this age group, so the "raw counts" are used. (The alternative is "imputed counts" standardized to 42 days.)

[d] "How did you feel physically today?"

[e] The Daily Health Record had a Symptom Chart for each day. Respondents entered details about health problems of that day. This variable is the number of health problems summed across 42 charts. If the same problem occurred on more than one day, it is counted several times.

[f] Regressions were estimated twice, with and without a Morbidity Control (No. symptomatic days).

[g] Number of days spent in bed, cut down household chores/errands, missed work, or cut down other planned activities.

[h] Number of days made an appointment, telephoned an office/clinic, visited an office/clinic, was admitted to hospital, or had other curative medical care.

[i] The Daily Health Record had a Drug Chart for each day. Respondents entered details about drugs taken on that day. This variable is the number of drugs summed across 42 Drug Charts. If the same drug was used on more than one day, it is counted several times. Drugs are categorized by purpose (curative, preventive) and prescription status.

[j] Nonemployed women receive the middle score (3). See text footnote for further comments.

Table 2 - Correlations Between Roles and Psyche Variables for Young Women (Ages 18-34) in Detroit

		Psyche									
		Pressures				Satisfactions			Competence		
Role Group[a]	N	Chronic stress	Acute stress	Stressful life events	Rushed	Liking for job[b]	Liking for housework	Life in past year	Resistance	Locus of control	Self esteem
Employed	96	.089	.041	.061	.253**		.069	.054	.044	.132	.150
Previously married	22	.069	.107	.071	.067		-.019	-.415**	.079	-.068	-.037
Married	95	-.025	-.095	.090	-.170*		.086	.328**	.031	-.001	.146
Never married	45	-.025	.024	-.153*	.136		-.080	-.047	-.093	.052	-.133
Parent	81	.172*	.002	.186*	.107		-.092	-.060	.148	-.025	.018
At home (nonmarried without job, only a few with children)	16	-.022	.005	-.030	-.007		-.148	-.304**	-.043	-.161*	-.264**
Homemaker (married with no job or children)	14	-.113	-.009	-.233**	-.239**		.090	.107	-.054	.028	-.016
Homemaker (married mother without job)	36	-.013	-.046	.107	-.131		-.036	.076	.014	-.031	-.011
Career Women (never married, employed, no children)	33	-.016	.034	-.122	.066	.105	-.024	.106	-.054	.132	-.036
Career Women (married, employed, no children)	22	-.069	.009	.071	-.072	.061	.108	.146	-.122	-.009	.132
Two Roles Plus (previously married with job and children)	9	.109	.137	.104	.144	.170*	.036	.287**	-.132	.006	.092
Triple Roles (married employed mothers)	23	.140	-.080	.121	.180*	.251	-.014	.139	.188*	.057	.066

* $p < .05$, ** $p < .01$. No asterisk means $p \geq .05$.

[a] Each Role Group is a dummy variable scored 1 for women with that role or role combination and 0 otherwise.

[b] Results are for four employed groups only; correlations can be compared across them for relative size. (All are positive because nonemployed women score 0 on the dummies.)

Table 3 - Effects of Employment, Marriage, Parenthood, and Psyche Variables on Health of Young Women[a]

		Initial Interview					Daily Health Records				
		Health in past year	Vulnerability to illness	How feel physical each day	How often worn out at end of day	# days ill or injured in past 2 weeks	Average physical feeling	# symptomatic days	# days cut down activity	# days consulted friends or fam.	Total # of drugs
Grand Mean ($\bar{Y}$)		2.76	2.41	3.24	2.93	1.83	7.57	16.21	3.30	8.26	40.06
Main Effects of Roles and Psyche[b]	Hypothesis										
Employed (E)	-	-.49	-.15	-.35	.21	-.91	-.48	-2.08	-1.74*	-2.22	-15.83
Prev. married (M1)	+	.48	.01	.56	-.18	.60	.62	-2.10	4.04**	2.12	8.19
Married (M2)	-	-.17	-.22	.04	.09	-1.25	-.40	-1.56	1.00	1.50	-2.35
Parent (P)	-	-.58	-.42*	-.60*	.22	-1.51*	-.19	-1.55	-2.00*	-3.07*	-21.18*
Chronic stress	+	.05	.06	.08	.06	.05	.03	1.00*	.54**	.40	5.24*
Acute stress	+	.02		.05		.09	.08**	.30	.06	.06	
Stressful life event	+	-.25	-.35	-.08	.31	-.40	-.32	2.36	-1.64	.38	13.57
Rushed	+	-.06	-.04	-.16	.22*		-.09	.89	-.91	1.29	-3.83
Liking for job	-	-.29*	-.17*	-.37**	-.10	-.88*	-.26**	-.38	-.63	-1.10*	-5.26
Liking for housework	-		-.02			-.22		-2.37**	-.23	-1.14**	-4.33
Life in past year	-	-.25**	-.02	-.18**	.02	-.20	-.18**	.54	-.22	.27	
Resistance resources	-	-.04	-.10	-.11	.04	-.06		.69			4.19
Locus of control	-	-.03	-.10*	-.08	-.04	-.11	-.02	-.58	-.09	-.40	4.07*
Self esteem	-	-.03	.02	-.06	.04	-.19	.05	.58		.27	
Interaction Effects of Roles[c]											
(- for all)		EP 1.49* EM1P 5.25*	EM1 -1.42*		EP .98**	EP 2.87*	EP 1.33**			EM1 -10.64** EP 4.07** M1P -8.36** EM1P 17.54**	EP 5.99*	EP 45.05*
R^2 for Model											
1 (E,M,P)		.049	.056	.039	.024	.093**	.081*	.014	.107**[d]	.056[d]	.054[d]
2 (E,M,P,2-way)		.108	.097	.062	.103	.162**	.153**	.096	.284**	.157**	.128*
3 (E,M,P,2-way,3-way)		.160**	.116	.082	.116	.185**	.154*	.108	.360**	.175**	.143*
4 (E,M,P;Psyche)		.201**	.186**	.295**	.134*	.230**	.272**	.173*	.243**	.224**	.142*

Table 3 (cont.)

	Initial Interview					Daily Health Records				
	Health in past year	Vulnerability to illness	How feel physical each day	How often worn out at end of day	# days ill or injured in past 2 weeks	Average physical feeling	# symptomatic days	# days cut down activity	# days consulted friends or fam.	Total # of drugs
Significance of R^2 Increment[e]										
Model 1→2	NS	NS	NS	*	*	NS	NS	**	*	NS
Model 2→3	*	NS	NS	NS	NS	NS	NS	**	NS	NS
Model 1→4	**	*	**	*	**	**	*	**	**	NS

* $p < .05$, ** $p < .01$. No asterisk or NS means $p \geq .05$.

[a] Results are shown for 10 of the 31 variables analyzed. High scores on the Health variables mean poor health. High scores on the Psyche variables mean high stress, high satisfaction, and high competence. The Role variables are all dummies (scored 1 for women with the role, and 0 otherwise).

[b] For Roles, regression coefficients from Model 1 are shown. For Psyche, coefficients are from the final stepwise equation for Model 4. Psyche variables that do not appear in that final equation have a blank space here.

[c] Significant 2-way and 3-way effects are shown, from Model 2 and Model 3 respectively.

[d] With a morbidity control, the R^2s for Model 1 are .278, .554, and .278 respectively.

[e] F-tests are performed to see if the increments are significant.

Table 4 - Effects of Role x Psyche Interactions on Health of Young Women[a]

AS HYPOTHESIZED:

Employed women buffer stress, so its negative effect on health is reduced.

E x Chronic stress.	71% (12/17) of the coefficients are negative. For: Work limitation, nonwork limitations; No. of symptomatic days; No. restricted activity days, curative medical care days, lay consultation days; No. drug days, prescription drugs, and several other variables.

Mothers also buffer stress.

P x Chronic stress.	88% (14/16) negative. For: Health in past year, self-rated health; work limitations, nonwork limitations, fatigue (worn out); No. restricted activity days, preventive medical care days; No. drugs, prescription drugs, OTC drugs, and others.

(Contrary to the hypothesis), never married women buffer stress a little too. But married women do not; in fact, chronic stress exacerbates their health problems.

M3 x Chronic stress.	65% (11/17) negative For: Self-rated health, fatigue, no. symptoms, restricted activity days, prescription drugs and others.
M2 x Chronic stress.	69% (11/16) positive.

Women with active roles derive health benefits from high competence, whereas women without roles do not.

E x Locus of control.	83% (5/6) negative.
E x Self esteem.	83% (5/6) negative.
M2 x Locus of control	88% (7/8) negative.
M2 x Self esteem.	80% (4/5) negative.
P x Resistance	100% (3/3) negative.

CONTRARY TO HYPOTHESIS:

Nonemployed women and nonparents derive health benefits from satisfactions.

E x Liking for housework.	75% (3/4) positive.
E x Life in past year.	83% (10/12) positive.
P x Liking for job.	71% (12/17) positive.
P x Life in past year.	82% (9/11) positive.

So do never married women. But (as hypothesized) previously married women enjoy no benefits at all from satisfaction; their health continues to spiral down even when they are satisfied. Also, unhappy married women have worse health for it than happy ones.

M3 x Life in past year.	85% (11/13) negative.	(Never married)
M1 x Life in past year.	82% (9/11) positive.	(Previously married)
M2 x Life in past year.	100% (12/12) positive.	(Married)

[a] E is employed, M1 previously married, M2 currently married, M3 never married, and P parent. Coefficients for M3 are computed by summing those for M1 + M2, then reversing the sign of the sum.